Operating Instructions

Electronics module
VEGAFLEX series 60

Contents

1 About this document

1.1 Function 4
1.2 Target group 4
1.3 Symbolism used 4

2 For your safety

2.1 Authorised personnel 5
2.2 Appropriate use 5
2.3 Safety information for Ex areas 5
2.4 Environmental instructions 5

3 Product description

3.1 Configuration 6
3.2 Principle of operation 6
3.3 Storage and transport 6

4 Mounting

4.1 General instructions 7
4.2 Mounting preparations VEGAFLEX 61, 62, 65, 66 7
4.3 Mounting preparations VEGAFLEX 67 8
4.4 Mounting procedure 9

5 Setup

5.1 Setup 11

6 Maintenance

6.1 Instrument repair 13

7 Dismounting

7.1 Dismounting procedure 14
7.2 Disposal 14

8 Supplement

8.1 Technical data 15

30207-EN-050607

1 About this document

1.1 Function

This operating instructions manual has all the information you need for quick mounting and setup of a replacement component. Please read this manual before you start setup.

1.2 Target group

This operating instructions manual is directed to trained personnel. The contents of this manual should be made available to these personnel and put into practice by them.

1.3 Symbolism used

Information, tip, note
This symbol indicates helpful additional information.

Caution, warning, danger
This symbol informs you of a dangerous situation that could occur. Ignoring this cautionary note can impair the person and/or the instrument.

Ex applications
This symbol indicates special instructions for Ex applications.

● **List**
The dot set in front indicates a list with no implied sequence.

→ **Action**
This arrow indicates a single action.

1 **Sequence**
Numbers set in front indicate successive steps in a procedure.

2 For your safety

2.1 Authorised personnel

All operations described in this operating instructions manual must be carried out only by trained specialist personnel authorised by the operator. For safety and warranty reasons, any internal work on the instruments must be carried out only by personnel authorised by the manufacturer.

2.2 Appropriate use

Oscillator, emitting electronics, housing or process components are replacement components for existing sensors.

2.3 Safety information for Ex areas

Please note the Ex-specific safety information for installation and operation in Ex areas. These safety instructions are part of the operating instructions manual and come with the Ex-approved instruments.

2.4 Environmental instructions

Protection of the environment is one of our most important duties. That is why we have introduced an environment management system with the goal of continuously improving company environmental protection. The environment management system is certified acc. to DIN EN ISO 14001.

Please help us fulfil this obligation by observing the environmental instructions in this manual:

- Chapter "*Storage and transport*"
- Chapter "*Disposal*"

3 Product description

3.1 Configuration

Scope of delivery

The scope of delivery encompasses:

- Electronics module VEGAFLEX series 60
- Documentation
  - this operating instructions manual

3.2 Principle of operation

Area of application

The electronics module VEGAFLEX series 60 is suitable for exchange with sensors acc. to the guided microwave principle VEGAFLEX series 60.

3.3 Storage and transport

Packaging

Your instrument was protected by packaging during transport. Its capacity to handle normal loads during transport is assured by a test acc. to DIN EN 24180.

The packaging of standard instruments consists of environment-friendly, recyclable cardboard. For special versions PE foam or PE foil is also used. Dispose of the packaging material via specialised recycling companies.

Storage and transport temperature

- Storage and transport temperature see "*Supplement – Technical data – Ambient conditions*"
- Relative humidity 20 … 85 %

4 Mounting

4.1 General instructions

If the electronics module is defective, it can be replaced by the user.

In Ex applications, only one instrument and one oscillator with appropriate Ex approval must be used.

If there is no electronics module available on site, it can be ordered from the responsible VEGA agency.

Sensor serial number

The order data and company data of the sensor must be loaded in the new oscillator. These are the options:

- at the factory by VEGA personnel
- or on site by the user.

Information:
When loading on site, first of all the order data must be downloaded from the Internet (see "*Setup*").

In both cases, the sensor serial number is necessary. The serial numbers are stated on the type label of the instrument, inside the housing or on the delivery note.

Caution:
The order data and company data contain important presettings for the sensor. A reliable operation and a correction of the measurement is not possible without these data.

Assignment

Electronics modules are adapted to the respective sensor. They differ, e.g. in the signal output, the power supply or approval.

First of all check by means of the overview in section Mounting preparations, if you are using the suitable electronics module. Compare the new electronics module with the existing one. The specifications on the type label must correspond. This applies mainly to instruments with approvals.

4.2 Mounting preparations VEGAFLEX 61, 62, 65, 66

4 … 20 mA/HART

Electronics module FX-E.60H. suitable for VEGAFLEX 61, 62, 65, 66 – 4 … 20mA/HART:

- FX-E.60H**X** (X = without approvals)
- FX-E.60H**A** (A = approvals CA, DA acc. to VEGA product list)
- FX-E.60H**C** (C = approvals XM, CX, CM, CK, CI, DX, DM, DI, GX, UX, UF acc. to VEGA product list).

4 … 20 mA/HART four-wire

Electronics module FX-E.60V. suitable for VEGAPULS 61, 62, 63, 65, 66 – 4 … 20 mA/HART four-wire:

- FX-E.60V**X** (X = without approvals)
- FX-E.60V**A** (A = approval DA 4 … 20 mA/HART-Vierleiter)
- FX-E.60V**C** (C = approvals DX, EX , GX acc. to VEGA product list).

Profibus PA

Electronics module FX-E.60P. suitable for VEGAFLEX 61, 62, 63, 65, 66 – Profibus PA:

- FX-E.60P**X** (X = without approvals)
- FX-E.60P**A** (A = approvals CA, DA acc. to VEGA product list)
- FX-E.60P**C** (C = approvals XM, CX, CM, CK, GX acc. to VEGA product list).

Foundation Fieldbus

Electronics module FX-E.60F. suitable for VEGAFLEX 61, 62, 63, 65, 66 – Foundation Fieldbus FF:

- FX-E.60F**X** (X = without approvals)
- FX-E.60KF**C** (C = approvals CX CK, GX acc. to VEGA product list).

4.3 Mounting preparations VEGAFLEX 67

4 … 20 mA/HART

Electronics module FX-E.67H. suitable for VEGAFLEX 67 – 4 … 20 mA/HART:

- FX-E.67H**X** (X = without approvals)
- FX-E.67H**C** (C = approvals XM, CX, CM, CK, CI, DX, DM, DI acc. to VEGA product list).

Profibus PA

Electronics module FX-E.67P. suitable for VEGAFLEX 67 – Profibus PA:

- FX-E.67P**X** (X = without approvals)
- FX-E.67P**C** (C = approvals XM, CX, CM acc. to VEGA product list).

Foundation Fieldbus

Electronics module FX-E.67F. suitable for VEGAFLEX 67 – Foundation Fieldbus FF:

- FX-E.67F**X** X = without approvals)
- FX-E.67CF**C** (C = approval CX acc. to VEGA product list).

4.4 Mounting procedure

Mounting procedure

The electronics module is located in the electronics compartment. The below illustrations show the respective position of the electronics compartment in a single or double chamber housing.

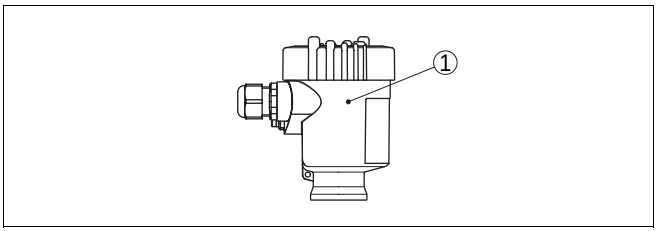

Fig. 1: Single chamber housing
1 Position of the electronics module

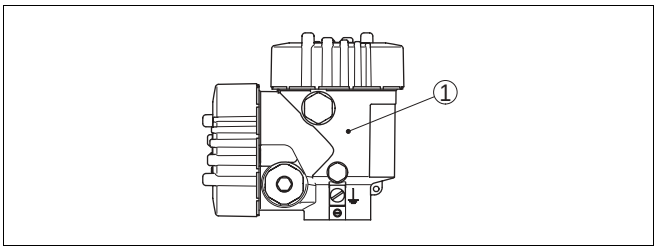

Fig. 2: Double chamber housing
1 Position of the electronics module

Proceed as follows:

1 Switch off power supply

2 Unscrew housing cover of the electronics compartment

3 Disconnect the connection cables acc. to the operating instructions manual of the respective sensor

4 Loosen the two screws with a Phillips screwdriver (size 1)

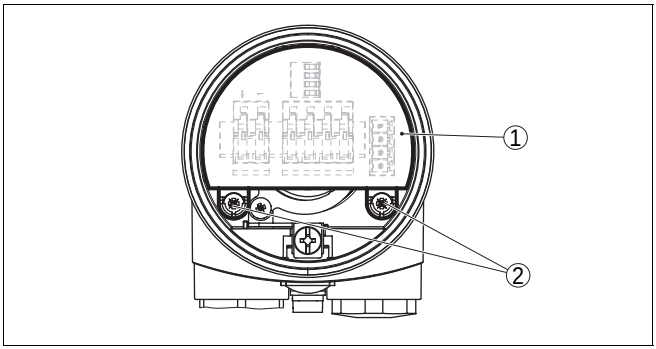

Fig. 3: Loosen the screws
1 Electronics module
2 Screws (2 pcs.)

5 Pull the previous electronics out by holding the opening levers.

6 Insert the new oscillator carefully.

7 Screw in and tighten the two screws with a Phillips screwdriver.

8 Connect the connection cables acc. to the operating instructions manual of the respective sensor

9 Screw the housing cover back on

The electronics exchange is finished.

As a rule, the exchange of the electronics must be documented internally when used in Ex applications.

5 Setup

5.1 Setup

With sensor serial number

If you have ordered the electronics module **by stating the sensor serial number**, it is ready for operation after installation and connection to power supply.

Without sensor serial number

If you have ordered the electronics module **without stating the sensor serial number** or you are using a suitable electronics module from stock, you first have to load the sensor data after installation.

Load sensor data

Move via www.vega.com to the item "*serial number search*". The order data of the sensor will be displayed after entering the serial number.

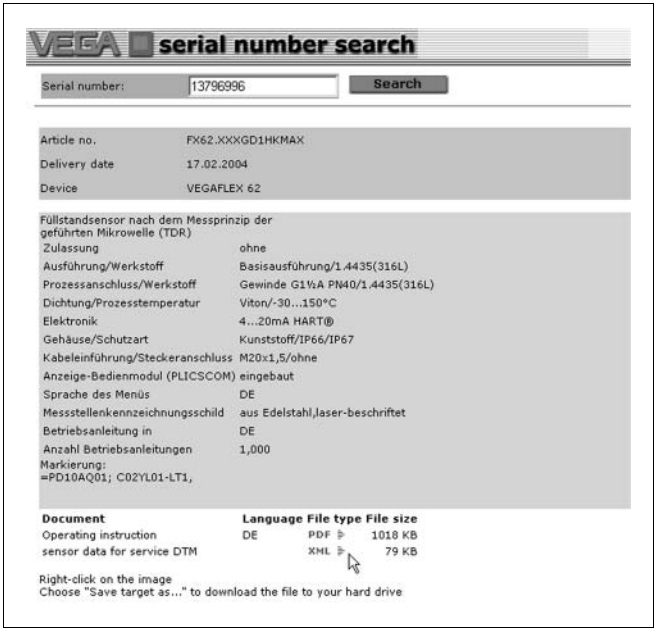

Fig. 4: Example for the order data of a sensor.

Below the order data you will find as an XML file "*Sensor data for Service-DTM*". Load these data with "*Save target as*" to your PC and finally export them via PACTware™ and the Service DTM to the sensor.

Adjustment

As a rule, settings already carried out on site with the previous electronics module such as min./max. adjustment, gating out of false echoes etc., however must be repeated.

Tip:
Simply use the copy function of the adjustment module PLICSCOM or the adjustment software PACTware™.

6 Maintenance

6.1 Instrument repair

If it is necessary to repair the replacement component, please proceed as follows:

You can download a return form (23 KB) from our homepage www.vega.com under: "*Services – Downloads – Forms and Certificates – Repair form*".

By doing this you help us carry out the repair quickly and without having to call back for needed information.

- Print and fill out one form per instrument
- Clean the instrument and pack it damage-proof
- Attach the completed form and possibly also a safety data sheet to the instrument.
- Send the instrument to the respective address of your agency. In Germany to the VEGA headquarters in Schiltach.

30207-EN-050607

7 Dismounting

7.1 Dismounting procedure

Take note of chapters "*Mounting*" and "*Connecting to power supply*" and carry out the listed steps in reverse order.

7.2 Disposal

The replacement component consists of materials which can be recycled by specialised recycling companies. We have purposely designed the electronic modules to be easily separable. Mark the instrument as scrap and dispose of it according to government regulations (electronic scrap ordinance, ...)

Materials: see "*Technical data*"

If you cannot dispose of the instrument properly, please contact us about disposal methods or return.

8 Supplement

8.1 Technical data

Technical data

are stated in the operating instructions manual of the appropriate sensor.

30207-EN-050607

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All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.